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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,693	05/24/2004	RYAN THOMAS BECHARD		3692

27390 7590 12/10/2008

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EXAMINER	
SUERETH, SARAH ELIZABETH	
ART UNIT	PAPER NUMBER
3749	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/709,693	BECHARD, RYAN THOMAS	
	Examiner	Art Unit	
	Sarah Suereth	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *49-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/22/08 has been entered.

Claim Objections

2. Claims 49-52 are objected to because of the following informalities: in claim 49, there are two claim limitations with the letter b.), and two limitations with the letter c). In claim 51, it appears the claim should read --said second passageway comprises a plurality of convoluted portions--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 49-56** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,156,139 to Wilson Jr. ("Wilson") in view of U.S. Patent No. 5,879,149 to Briggs ("Briggs") and U.S. Patent No. 3,865,185 to Otsbo ("Otsbo").

Wilson discloses in the specification and Figs. 1-4 a method of operating an oil burner and an oil burner assembly in the same field of endeavor as applicant's invention and similar to that described in applicant's claims.

In particular, Wilson shows an oil burner assembly having a manifold constructed of a unitary body of thermally transmissive material (see abstract), and having first (22) and second (14) passageways. As shown in Fig. 2, first passageway (22) extends from inlet (22a) to outlet (22b) and forms a continuous passageway (note flow arrows illustrated in Fig. 2 and col. 6, lines 29-31). As shown in Fig. 1, second passageway (14) is a straight, continuous path. Wilson further shows that the first passageway (22) terminates in a first cavity (see enlarged exit cavity at left side of Fig. 2) wherein a portion of a nozzle (8) having an oil distribution port mounts in sealed engagement to the first cavity (note nozzle 8 is necessarily sealed so that flow is ejected from the central unnumbered port, see Fig. 1). Wilson also necessarily is connected to a source of oil so that oil is transmitted to passageway (22).

In regard to at least claims 53 and 50, Wilson shows an oil burner assembly having a manifold constructed of a thermally transmissive material (see abstract), first (22), second (14), and third (16) internal passageways, and a supported nozzle (8) having an oil distribution port and an atomizing port (see at least col. 2, lines 46-52). Source of oil and pressurized air are connected to the first (22) and third (16)

passageways respectively and are arranged such that the air and oil are heated by a heating element arranged in the second passageway (14) (see col. 5, lines 47-48) before being discharged from the nozzle (8) (see at least col. 6, lines 28-42). The structural arrangement of the passageways, cavities and the nozzle ports are shown as recited in applicant's claims (see at least Figs. 1 and 2, and note second cavity 22B and first cavity consisting of the enlarged exit cavity of 22 and nozzle port 8). Each of the passageways, 16, 22, and 14 are separated from one another and accordingly considered to be located in separate tiers/layers.

Regarding claim 51, the undulations of passageway (22) (described also as a controlled labyrinth, see col. 6, line 60), are considered to represent the convoluted and portions recited.

Additionally, note that each of the three channels (22, 14 and 16) are considered to be continuous as recited (see at least Figs. 1 and 2 and col. 6, lines 39-33).

In regard to at least claims 55-56, the method of operating an oil burner having the method steps recited in this claims are considered substantially disclosed in the operation of the burner assembly of Wilson as noted above.

Further, in regard to claim 55, as the air atomizing nozzle (8) of Wilson appears identical to the air atomizing nozzle (2) of applicant's invention, the function of the atomizing the oil immediately upon said oil being emitted from the nozzle is considered to suggested by the nozzle of Wilson.

Wilson does not explicitly show an igniter or step of igniting, the claimed nozzle configuration, or a source of heated liquid or providing such a source to the second passageway.

In regard to the recitation of an igniter and the claimed nozzle arrangement, the nozzle of Wilson is clearly indicated to create a flame (e.g. see abstract), however, there is no detail as to what effects the creation of a flame. However, it is well understood in the art that ignition is provided for the nozzle of an oil burner via an igniter mounted adjacent the nozzle exit. Support for this assertion is found in the reference to Briggs. Briggs teaches an oil burner assembly in the same field of endeavor as both applicant's invention and Wilson. In Briggs, the oil is ignited from a nozzle (52) via an adjacent igniter (55). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the igniter of Briggs in the burner of Wilson to desirably ignite the fuel and air mixture as it is sprayed from the nozzle (see Briggs, col. 3, lines 55-60).

Regarding claims 52,54 and 56, the Wilson air supply passageway does not have the branched conduits as claimed.

Briggs teaches an oil burner with a nozzle (52) including a fuel conduit (126) terminating in a cavity (133) joined to an air conduit (140) including a narrowed region (142) that terminates in a first cavity (132). Both cavities are coaxial and arranged as claimed (see Figure 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Wilson apparatus by replacing the Wilson fuel nozzle

arrangement with the Briggs fuel nozzle arrangement in order to use a low cost nozzle block arrangement (col. 3, lines 10-12).

The Wilson in view of Briggs apparatus shows only one narrowed air supply conduit, instead of the claimed plurality. However, the courts have held that duplication of parts for amplified effect does not distinguish over the prior art, unless a new and unexpected result is produced (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) , also MPEP 2144.04).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Wilson in view of Briggs apparatus by inserting a plurality of air supply conduits, in order to increase the amount of air supplied to the nozzle head.

Wilson in view of Briggs, as discussed above, discloses the claimed invention except for the recitation in the claims of a source of heated liquid and step of providing the heated liquid to the second passageway. In Wilson, a passageway is shown that receives a heating element but does not go into further detail as to the particulars of this heating element.

Otsbo discloses an oil to water (col. 3, lines 19-23) heat exchanger with flow through channels for hot water (52-55) used to preheating oil flowing through additional channels (60-65).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the oil heating device of Wilson to incorporate a heating means that uses water to preheat oil as taught in Otsbo to desirably provide a oil

preheating device that has a very high heat transfer efficiency (see Otsbo, col. 1, lines 28-30).

Accordingly, a person of ordinary skill in the art would reasonably modify the heating element of Wilson to include a heated liquid passageway arrangement in the passageway structure (14) of Wilson to obtain the uniform oil heating benefit that, as noted above, is recognized in the art to result in good heat transfer efficiency.

Response to Arguments

5. Applicant's arguments with respect to the Leach reference have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Suereth whose telephone number is (571)272-9061. The examiner can normally be reached on Mondays & Tuesdays 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister, can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Suereth/

Examiner, Art Unit 3749

/Steven B. McAllister/

Supervisory Patent Examiner, Art Unit 3749